

AMENDMENT UNDER 37 C.F.R. § 1.312
U.S. Appln. No. 09/771,631
Attorney Docket No.: Q62250

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): An information, operating or monitoring system for a real device having real subcomponents, the system comprising:

 a data processing device, comprising a software model including virtual components, wherein the software model represents the real device, and wherein the virtual components are linked to each other in correspondence to relationships of or within the real device; and

 a display for displaying views associated with the virtual components; wherein at least one of the virtual components and the views include access data for accessing at least one of local information data and global information data, which are associated with the virtual components,

 wherein the virtual components comprise a virtual device and virtual subcomponents, which represent the real device and the real subcomponents, respectively, wherein the virtual device and the virtual subcomponents are designed as at least one of data and data processing programs,

 wherein the virtual device and the virtual subcomponents are linked to each other in correspondence to at least one of operational relationships, physical relationships, and technical relationships of or within the real device, and

AMENDMENT UNDER 37 C.F.R. § 1.312

U.S. Appln. No. 09/771,631

Attorney Docket No.: Q62250

wherein technologically different ones of the virtual subcomponents are assigned to the virtual device, wherein technologically structured subordinate components are assigned to each of the virtual subcomponents, and wherein the access data are structured for navigating a user-a component arranged in the data processing device, wherein the component is structured for at least one of transmitting and receiving data through the virtual device through the virtual device, through the technologically different virtual subcomponents, and through the subordinate components.

2. (original): The system of claim 1, wherein the real device comprises an automation system.

3. (original): The system of claim 1, wherein links between the virtual components form a data structure of the software model that is stored in the data processing device.

4. (canceled).

5. (previously presented): The system of claim 1, wherein the data processing programs are embedded in a software frame via cross-references, and wherein at least one of the software frame and the cross-references is structured to permit, for navigation purposes, access by a user to at least one of the virtual device and the virtual subcomponents.

AMENDMENT UNDER 37 C.F.R. § 1.312

U.S. Appln. No. 09/771,631

Attorney Docket No.: Q62250

6. (original): The system of claim 1, further comprising:

a connection between the data processing device and the real device, wherein, via the connection, control data and process data are transmitted in at least one of a unidirectional manner and a bi-directional manner; and

a component arranged in the data processing device, wherein the component is structured for at least one of transmitting and receiving data.

7. (canceled).

8. (currently amended): A method for operating and monitoring a real device having real subcomponents, comprising:

navigating in a model stored in a data processing device, wherein the model comprises virtual components and views, wherein the virtual components represent the real device, and wherein the views are assigned to the virtual components;

assigning a model structure to the model, wherein the model structure is stored in the data processing device, and wherein the model structure comprises a linkage of the virtual components in correspondence to relationships of or within the real device; and

accessing at least one of local information data and global information data via access data that are included in at least one of the virtual components and the views, wherein the local information data and the global information data are associated with the virtual components,

AMENDMENT UNDER 37 C.F.R. § 1.312

U.S. Appln. No. 09/771,631

Attorney Docket No.: Q62250

wherein the virtual components comprise a virtual device and virtual subcomponents, which represent the real device and the real subcomponents, respectively, wherein the virtual device and the virtual subcomponents are designed as at least one of data and data processing programs,

wherein the virtual device and the virtual subcomponents are linked to each other in correspondence to at least one of operational relationships, physical relationships, and technical relationships of or within the real device, and

wherein technologically different ones of the virtual subcomponents are assigned to the virtual device, wherein technologically structured subordinate components are assigned to each of the virtual subcomponents, and wherein the access data ~~are~~are structured for navigating a user through the virtual device, through the technologically different virtual subcomponents, and through the subordinate components.

9. (original): The method of claim 8, further comprising displaying the local information data and the global information data to a user via the views.

10. (original): The method of claim 8, further comprising assigning a menu bar to a specific one of the views, wherein the menu bar identifies access capabilities to other available ones of the views, which are different from the specific one of the views.

AMENDMENT UNDER 37 C.F.R. § 1.312

U.S. Appln. No. 09/771,631

Attorney Docket No.: Q62250

11. (original): The method of claim 8, further comprising transmitting data via a connection between the data processing device and the real device.

12. (original): The method of claim 11, wherein the data comprise at least one of operation data and control data.

13. (original): The method of claim 8, further comprising activating a virtual subcomponent as one of the views by selecting a section of an image of the real device, wherein the section represents the virtual subcomponent.

14. (currently amended): A user interface for operating and monitoring a device comprising:

components interrelated through technical relationships,

wherein the user interface comprises a plurality of screen windows on a screen of a display;

wherein each screen window comprises an information set regarding one of the components of the device;

wherein each screen window comprises at least one cross-reference via which a user selects a specific screen window within the plurality of screen windows;

AMENDMENT UNDER 37 C.F.R. § 1.312

U.S. Appln. No. 09/771,631

Attorney Docket No.: Q62250

wherein the respective information sets on each screen window are linked to each other by the at least one cross-reference in correspondence to the technical relationships between the components of the device;

wherein the components comprise a virtual device and virtual subcomponents, which represent the real device and the real subcomponents, respectively, wherein the virtual device and the virtual subcomponents are designed as at least one of data and data processing programs;

wherein the virtual device and the virtual subcomponents are linked to each other in correspondence to at least one of operational relationships, physical relationships, and technical relationships of or within the real device; and

wherein technologically different ones of the virtual subcomponents are assigned to the virtual device, wherein technologically structured subordinate components are assigned to each of the virtual subcomponents, and wherein the access data are structured for navigating a user through the virtual device, through the technologically different virtual ~~subcomponent~~ subcomponents, and through the subordinate components.

15. (currently amended): An information, operation or monitoring system for a real device having a plurality of subcomponents and a data processing device, comprising:

a model having virtual components representing the real device and views associated with the virtual components for presenting information data of the virtual components stored locally on at least one of the data processing device and a computer linked to the data processing device;

AMENDMENT UNDER 37 C.F.R. § 1.312

U.S. Appln. No. 09/771,631

Attorney Docket No.: Q62250

wherein the model has a model structure stored in the data processing device;

wherein the model structure is formed from a linkage of the virtual components

analogously to the relationships of the real device;

wherein at least one of the virtual components and the views have access data for
accessing the information data;

wherein a connection is provided between the data processing device and the real device;

wherein the data processing device has at least one of a transmission and receiving
component for at least one of transmitting and receiving data;

wherein the real device is provided for at least one of unidirectional and bidirectional
transmission of control and process data;

wherein the virtual components comprise a virtual device and virtual subcomponents,
which represent the real device and the real subcomponents, respectively, wherein the virtual
device and the virtual subcomponents are designed as at least one of data and data processing
programs;

wherein the virtual device and the virtual subcomponents are linked to each other in
correspondence to at least one of operational relationships, physical relationships, and technical
relationships of or within the real device; and

wherein technologically different ones of the virtual subcomponents are assigned to the
virtual device, wherein technologically structured subordinate components are assigned to each
of the virtual subcomponents, and wherein the access data are structured for navigating a user

AMENDMENT UNDER 37 C.F.R. § 1.312

U.S. Appln. No. 09/771,631

Attorney Docket No.: Q62250

through the virtual device, through the technologically different virtual subcomponents, and through the subordinate components.

16. (previously presented): A method for information, operation or monitoring a real device, which includes a plurality of subcomponents,

wherein a model having virtual components is provided as a representation of the real device and in which views are respectively assigned to the virtual components, via which information data of the virtual components that are stored locally on at least one of a data processing device and a computer linked to the data processing device is displayed to a user;

wherein the user accesses the information data via at least one of the virtual components and access data assigned to the views;

wherein a connection is provided between the data processing device and the real device;

wherein the data processing device has at least one of a transmission and receiving component for at least one of transmitting and receiving data;

wherein the connection between the data processing device and the real device is provided for at least one of unidirectional and bidirectional transmission of control and process data;

wherein the virtual components comprise a virtual device and virtual subcomponents, which represent the real device and the real subcomponents, respectively, wherein the virtual device and the virtual subcomponents are designed as at least one of data and data processing programs;

AMENDMENT UNDER 37 C.F.R. § 1.312

U.S. Appln. No. 09/771,631

Attorney Docket No.: Q62250

wherein the virtual device and the virtual subcomponents are linked to each other in correspondence to at least one of operational relationships, physical relationships, and technical relationships of or within the real device; and

wherein technologically different ones of the virtual subcomponents are assigned to the virtual device, wherein technologically structured subordinate components are assigned to each of the virtual subcomponents, and wherein the access data are structured for navigating a user through the virtual device, through the technologically different virtual subcomponents, and through the subordinate components.